

Lowell National Historical Park
67 Kirk Street
Lowell, MA 01852
978.970.5000
<http://www.nps.gov/lowe>

Junior Ranger Activity Guide

Lowell National Historical Park
National Park Service
U.S. Department of the Interior



Junior Ranger Program

Becoming a Junior Ranger is a great way to learn more about the past. Junior Rangers can help set an example for everyone in taking care of our important resources.

Lots of people are Junior Park Rangers, kids just like you, all around the country! Junior Rangers have many things in common, including respect for nature and history.

Many National Park areas have Junior Ranger programs. Check with other parks you visit to see if you can become a Junior Ranger there, too!

What to do: This book will help you to become a Junior Park Ranger at Lowell National Historical Park. To receive your Junior Ranger badge and certificate, you must complete three pages in this book and do two "extra activities." Put a star next to any extra activities that you complete.

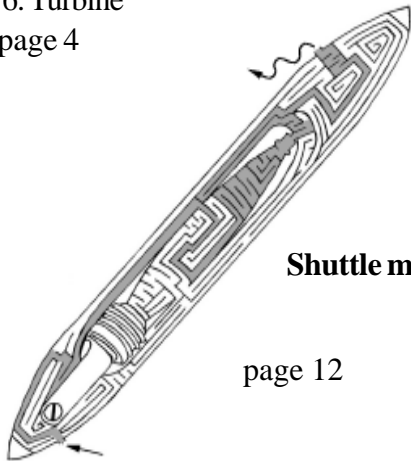
Answer Page

Word Scramble

IKREST - STRIKE
TLTUSHE - SHUTTLE
XTITEELS - TEXTILES
BTURENI - TURBINE
NURLSAIDT TYCI - INDUSTRIAL CITY
TOONTC ING - COTTON GIN
VIDRELBTE - DRIVE BELT
GHTEOASUE - GATEHOUSE
YLTORLE - TROLLEY
SCALAN - CANALS
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Suffolk Mill

- 1. Line shaft
 - 2. Loom
 - 3. Drive belt
 - 4. Gears
 - 5. Flywheel
 - 6. Turbine
- page 4



Second Floor Bingo

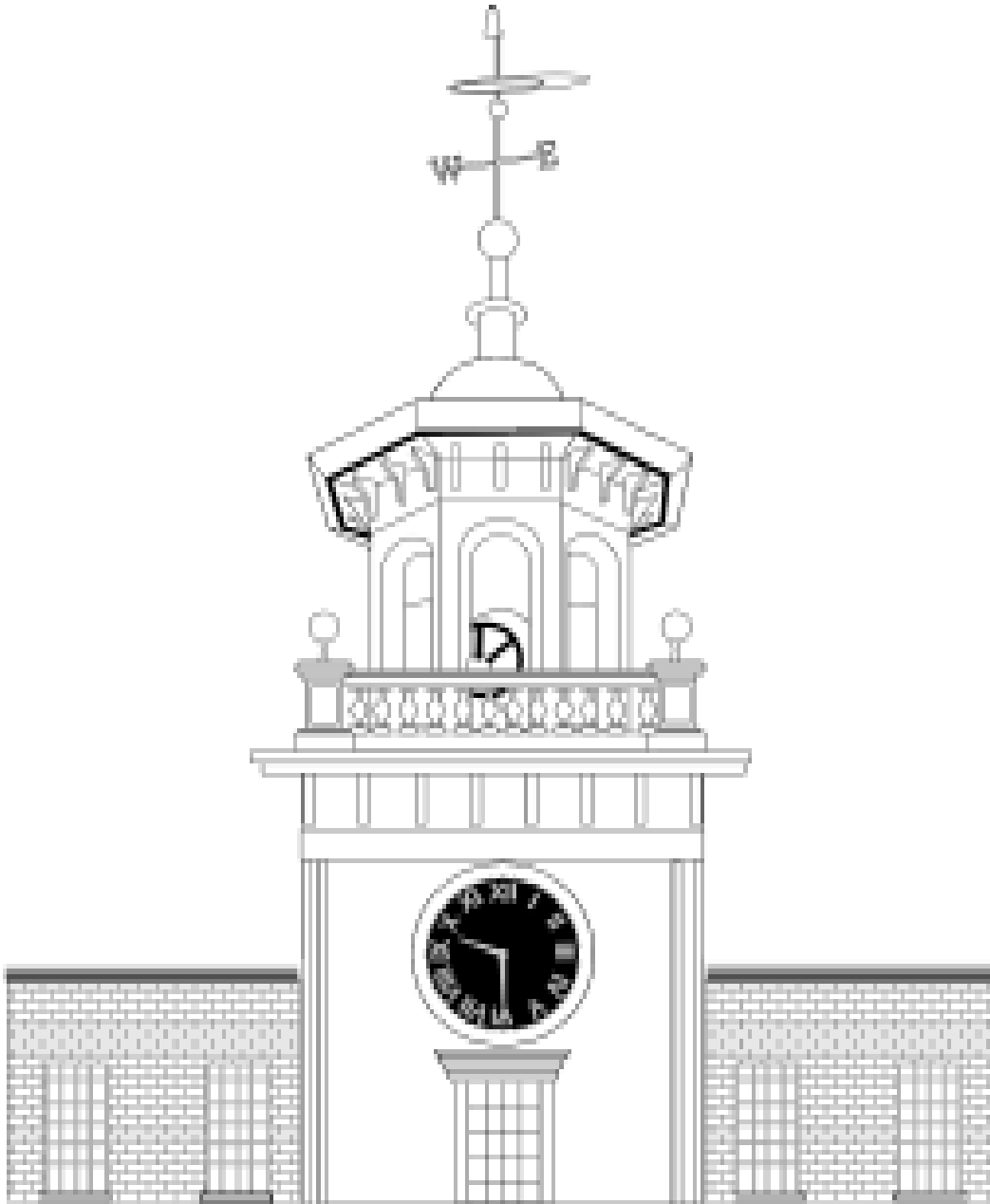
| | | | |
|----------------|-----------------------------------|------------------------------|----------------|
| 1601 | Slaves | John Q. Adams & James Munroe | Joan Fabrics |
| The Lowell Sun | 1835 | East Chelmsford | Flowers |
| Kirk Boott | Pick one from the "wall of cloth" | Lowell Machine Shop | Waltham, Mass. |
| 10 | Deborah Skinner | Boston Manufacturing Company | 1954 |

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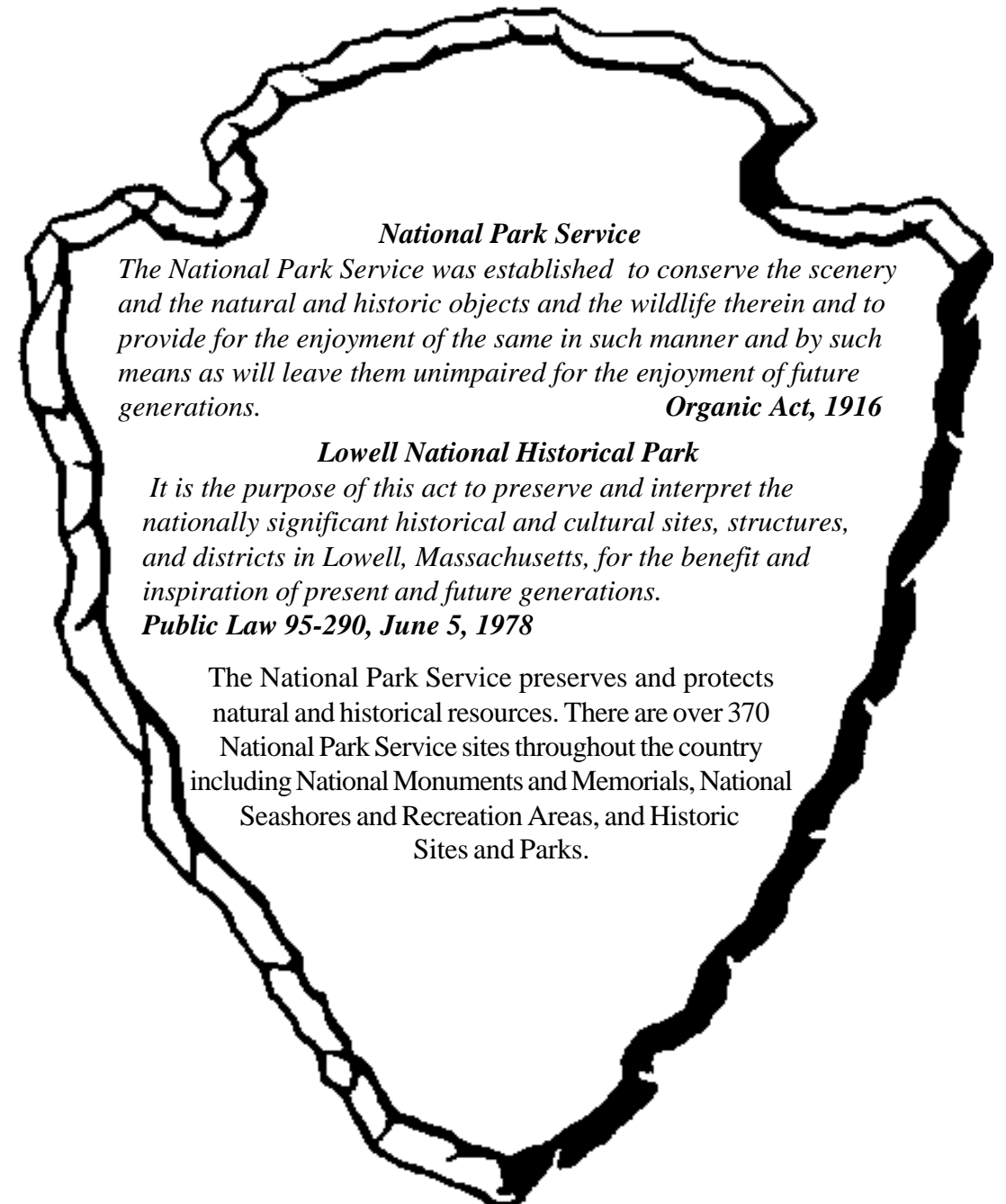
Word Search



A picture for you to color.



The Boott Mills Clock Tower



National Park Service

The National Park Service was established to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.

Organic Act, 1916

Lowell National Historical Park

It is the purpose of this act to preserve and interpret the nationally significant historical and cultural sites, structures, and districts in Lowell, Massachusetts, for the benefit and inspiration of present and future generations.

Public Law 95-290, June 5, 1978

The National Park Service preserves and protects natural and historical resources. There are over 370 National Park Service sites throughout the country including National Monuments and Memorials, National Seashores and Recreation Areas, and Historic Sites and Parks.

The Visitor Center

Start your visit to Lowell at the Visitor Center. As you look around the Visitor Center, you will find out about the five themes of Lowell National Historical Park. These themes help us to tell the story of Lowell. You will learn more about them as you visit the park.

Watch the video "**Lowell: The Industrial Revelation**" and answer the following questions (feel free to ask a ranger for help):

What powered the mills?

What did they make in the Lowell mills?

Why is Lowell a National Park?



Extra activity: **Take a boat tour or walk the Canalway. Ask a Ranger for details.**

Second Floor Bingo

Try to find the answers to these questions while looking around the museum. You get a "Bingo" if you can find the answers to four questions in a row either up and down, across or diagonally

| | | | |
|---|---|--|--|
| What is the number on the front of the trolley? _____ | Who picked the cotton before the Civil War? _____ | Who signed Paul Moody's patent? _____ | Name a business in Lowell that makes cloth today. _____ |
| What newspaper is for sale in the "Lowell in the 1990's" room? _____ | What is the date on the seal of the Boott Company? _____ | What was the original name of the City of Lowell? _____ | What is printed on the "mill girl" dress? _____ |
| Who are the Boott Mills named after? _____ | Name a type of fabric made in the Boott Mills. _____ | Where was the carding frame made? _____ | Where did Francis Cabot Lowell build his first mills? _____ |
| How many steps in the "Bale to Bolt" process? _____ | Who was the first "mill girl"? _____ | What was the name of F. C. Lowell's first mill company? _____ | What year did the Boott Mills close? _____ |

Extra activity: **Watch an oral history video.**

The Second Floor

Find the **mill model** on the second floor. Look at the different kinds of machines. The looms in the museum are located on the first floor. Where are the looms in the model? There were many steps that the cotton had to go through before being turned into cloth. Many of these steps could be done by hand as well as by machine.

Try hand carding: Is it easy or hard? On the farms you would have had to help your parents make cloth by carding wool. In the mills, the big carding machine carded the cotton very quickly.

Which way looks safer, hand cards or machine?

Which way looks easier?

Try hand spinning: After cotton was carded, it had to be spun into thread. This makes it very strong. In the mills, this was done on a spinning *frame* but on the farms this was done on a spinning *wheel*. You can find a spinning wheel in the first room of the museum.

Name two differences between the spinning *wheel* and the spinning *frame*.

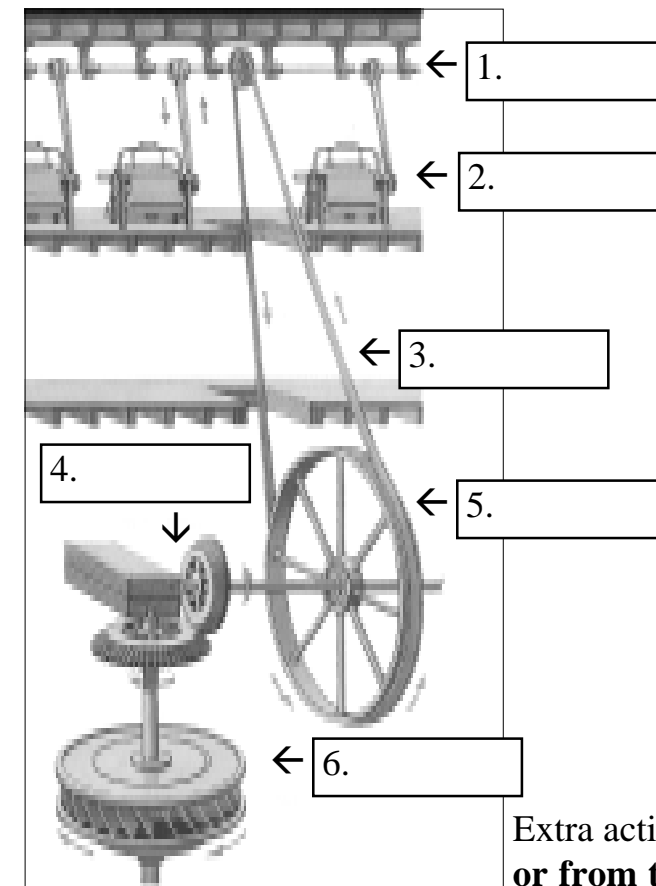
Try hand weaving. This is the process that makes cloth. Find one thing that is the same on the hand loom and the power loom in front of you.

Extra activity: **Try drawing in.** (Would you like to do this job in the factory?)

The Suffolk Mill

The Suffolk Mill is a great place to learn about power, and how power was used in the mills. Remember that the power to run the machines came from falling water.

Turbines use falling water to create power. This power was used to make the machines in the mill run. At the Suffolk Mill, we can see how the power that was made in the basement moves through the mill to be used by the machines.



Identify the parts of the diagram by filling in the correct words from the list below into the boxes.

Looms
Turbine
Line shaft
Gears
Drive Belt
Flywheel

Extra activity: **Take a trolley ride to or from the Suffolk Mill.**

Downtown Scavenger Hunt

Here's an activity that you can do while visiting the City of Lowell. In Lowell, the Park is the City and the City is the Park. Lowell was a planned Industrial City. Its founders carefully created a system of mills, canals, housing, streets, and public buildings that were designed to work together. The whole city was created to do one thing, make cloth, on a huge scale. As you walk or ride around Lowell today, look for the historic objects in the pictures below. Circle them if you see them.



Trolley



Boardinghouse



Boott Mills



Locomotive 410

The Boott Cotton Mills Museum

Front Desk area

Go to the model of Lowell in 1876. What are the **red** buildings? What are the **blue**? Find the **Boott Cotton Mills** button. This is where you are now. You can also find the **Suffolk & Tremont** where you may have visited earlier, and the **Lowell Manufacturing Company** where the Park Visitor Center is.

Look around at the pictures on the walls. These are famous people who have visited Lowell. Name two people who visited Lowell. Why do you think they came here?

Extra activity: **View the slow motion loom video by the front desk.**



The Weave Room:

Today, our weave room, with 88 looms operates only for park visitors. If this were a working mill, this room would be very hot and humid, and the air would be filled with cotton dust. There would be about twice as many looms with about four times as much noise!! As you watch the looms making cloth, look underneath. What do you see? Would you like to work there?

Write down three words that you would use to describe the weave room: _____

Extra activity: **Visit the exhibit in the Boott Gallery.**

Word Scramble

| | | |
|-----------------|-------|--|
| IKREST | _____ | When work conditions became worse the mill girls did this. |
| TLTUSHE | _____ | Brings the weft thread across the power loom (moves back and forth). |
| XTITEELS | _____ | Another name for cloth; what the Lowell mills produced. |
| BTURENI | _____ | An improvement of the waterwheel. |
| NURLSAIIDT TYCI | _____ | Lowell quickly grew from a small mill town into this. |
| TOONTC ING | _____ | Eli Whitney's invention used to clean the seeds out of cotton. |
| VIDRE LBTE | _____ | Used to transmit power directly to the machines in a mill. |
| GHTEOASUE | _____ | Key structure in the canal to monitor and control water. |
| YLTORLE | _____ | Helped the city to grow by providing transportation. |
| SCALAN | _____ | Carried water to the mills so it could be used for power. |



City Hall



St. Anne's Church



Old City Hall



Kirk St. Agents House



Moody St. Feeder Gatehouse



Lower Locks

Working People Exhibit

The Boardinghouse

The Working People Exhibit is where you can learn about the people who worked in the mills. The first workers in the mills were young women who came from New England farms. In the first half of this exhibit, you will learn about those “farm girls” who became "mill girls.”

Fill in the letter! A lot of what we know about the mill workers came from old letters. You can learn about them this way too by filling in the blanks. There are clues under the blank spaces to help you find the answers. Remember, there are no *right* or *wrong* answers!

January 15, 1845

Dear Brother,
I received your letters last evening, and will now try and answer your questions as well as I can.
The girls I room with are all from Vermont and good girls too. They have come to work here for many different reasons: _____.

1st floor, Dining room

I have a very good boarding place have enough to eat and that which is good enough. My favorite food has been _____.

1st floor, Kitchen

I like my boarding place very well. Our keeper, Mrs. Mathews, spends her days in a variety of chores such as _____.

1st floor, "The Keeper's Room"

We spend our evenings in various pasttimes. I particularly enjoy _____.

2nd floor, "The New Culture"

I have been careful with my earnings, but I have recently purchased for myself _____.

2nd floor, "Don't I Feel Independent"

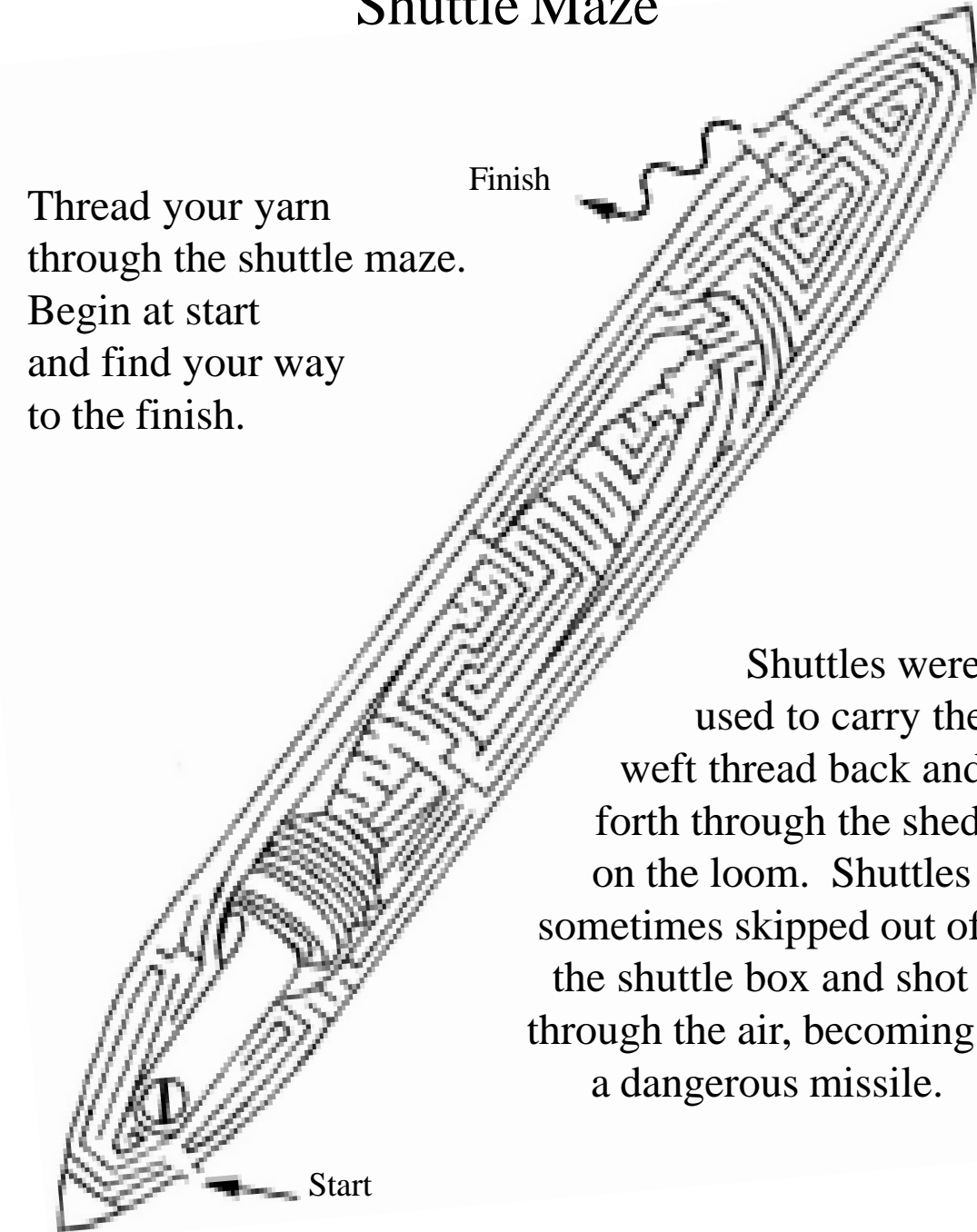
If I thought I could make a decent living back home I would come back there but I must work where I can get more pay. Write as soon as you can & as often as you feel like it. I always want to hear from you.

Yours affectionately,

2nd floor, Choose a name from the Petition Wall

Shuttle Maze

Thread your yarn through the shuttle maze. Begin at start and find your way to the finish.



Shuttles were used to carry the weft thread back and forth through the shed on the loom. Shuttles sometimes skipped out of the shuttle box and shot through the air, becoming a dangerous missile.

Mill City Word Search

| | | | |
|-----------|------------|---------------|---------------|
| Merrimack | immigrants | Boott | shuttle |
| canal | cotton | Lowell | boardinghouse |
| mill | trolley | ranger | |
| turbine | weave | National Park | |
| loom | waterpower | cloth | |

e i s h u t l l c r u l
l a s t i t l h s e b e
o u n i n c y n u w a d
t s t a w e t t o o b e
h t i o l r t r h p o r
o n l l r b a e g r w r
o a o r u r h i n e e a
k r a p l a n o i l a n
r g o l r o t h d a v g
o i i r o r o h r w c c
r m m e r r i m a c k r
w m c i n o l l o e r a
l i u e t g e w b a s r

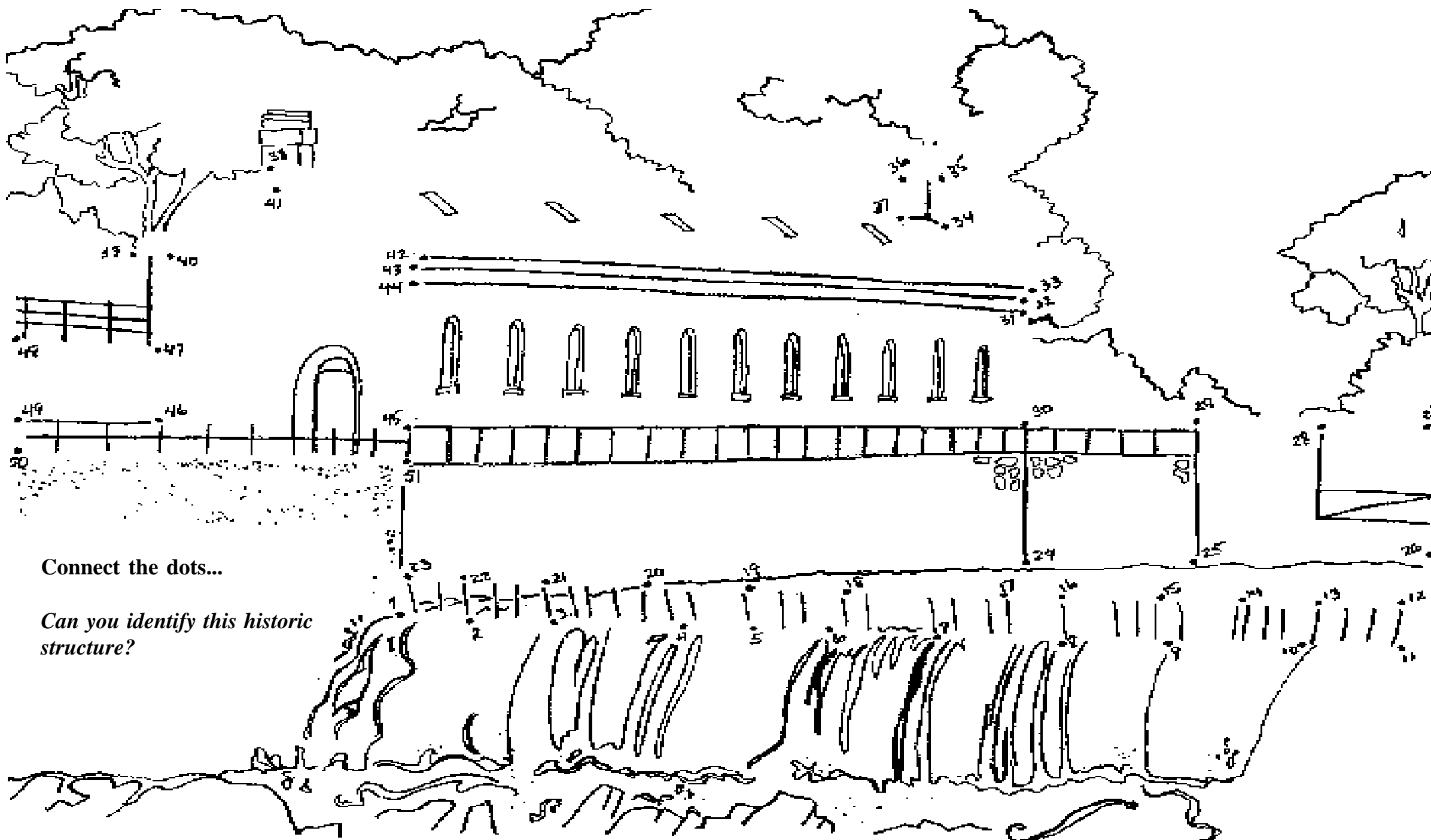
Working People Exhibit Immigrant Exhibit

As you go on to the balcony, you will be in the Immigrant Exhibit. Immigrants are people who came here from other countries, and many of them worked in the mills. Look at the timeline on the wall to your right. This tells us some of the things that have happened in Lowell's past.

Go down the far stairs into the Immigrant section of the museum. When immigrants came to America, they brought many things with them to help them remember where they came from.

Look around at some of the things people brought with them and try to find at least 10 of the things listed below. Check off the ones you find.

- | | |
|---|--|
| • Baseball mitt | • Green dress |
| • <i>Beginning English for Vietnamese Speakers</i> (Book) | • "Holy Name Society-St. Columbus Church" (Banner) |
| • Boxing gloves | • Ice scream scoop |
| • <i>CBA Acre News</i> (newspaper) | • Sign that says "5 & 10 cents" |
| • "Eglise St. Jean Baptiste-Lowell Mass." (Banner) | • Straw hat |
| • <i>First Reader for New American Citizens</i> (Book) | • "Tsongas the Democrat" button |
| • Green backpack | • Typewriter |
| | • Violin |



Connect the dots...

Can you identify this historic structure?